This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

Claim 1 (currently amended): Device for measuring current in a line (5) supplied by a voltage with noise, comprising:

a shunt (8) mounted in series in the line (5)~~, characterized in that it comprises;~~

~~an~~ floating shunt signal amplifier (15) ~~of the signal of the shunt (8), hereinafter called a floating amplifier, and;~~

a floating supply means (C1, C2, D1, D2) to supply said amplifier (15) with a voltage that follows the supply voltage of the shunt (8).

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Claim 2 (currently amended): Device according to claim 1, characterized in that the line (5) is a supply line of an asynchronous triphase electric motor (1), said electric motor (1) being supplied by a chopped voltage, having a power of about 500 watts, and in that the shunt (8) has a value of about 1 ~~mÙ~~ mΩ.--

Amend claim 3 as follows:

--3. (currently amended) Device according to claim 1, characterized in that it comprises a differential amplifier (9) whose inputs are connected on the one hand to an input terminal

(12) of the shunt (8), and, on the other hand, to the output (14) of the ~~so-called~~ floating amplifier (15).--

Claim 4 (currently amended): Device according to claim 3, characterized in that the floating amplifier (15) has its inputs connected to the terminals (12, 13) of the shunt (8) and in that the floating supply means (C1, C2, D1, D2) is constituted by a ~~mounting of the double bootstrap type~~ first voltage connection to a battery voltage and a second voltage connected to ground.

Claim 5 (currently amended): Device according to claim 4, characterized in that the ~~mounting of the double bootstrap type~~ floating supply means comprises:

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the connection of a terminal of voltage VCC of said floating amplifier (15) to a battery (2) via a diode D1, and the mounting of a condenser C1 between the input terminal (12) of the shunt and the cathode (16) of the diode D1,

the connection of a terminal of voltage GND (or VEE) of the floating amplifier (15) to the ground (10) via a diode D2 and the mounting of a condenser C2 between the input terminal (12) of the shunt and the anode (17) of the diode D2.

Claim 6 (original): Device according to claim 5, characterized in that the floating amplifier (15) is supplied at a voltage double the supply voltage of the shunt (8), before chopping.

Claim 7 (previously amended): Device according to claim 1, characterized in that it is used in an electrical power steering for an automotive vehicle.

Claim 8 (currently amended): Process for measuring weak current in a line (5) supplied by a voltage with noise, ~~characterized in that it comprises~~ comprising the step of amplifying the signal of difference of potential between the input terminal (12) and output terminal (13) of the shunt (8) by ~~an~~ floating amplifier (15) ~~called a floating amplifier,~~ supplied by a voltage which follows the supply voltage of the shunt (8).

Claim 9 (currently amended): Process according to claim 8, ~~characterized in that it comprises moreover a~~ wherein said step of ~~differential~~ amplification comprises input of ~~the difference between, on the one hand,~~ the signal of chopped voltage at the input (12) of the shunt (8)~~,~~ and~~, on the other hand,~~ the potential difference at the terminals of the shunt (8), amplified by the floating amplifier (15).

Claim 10 (new): A current measuring system, comprising:

a triphase motor (1);

a battery (2) supplying, via three supply lines (3, 4, 5), a voltage to the motor;

a rapid switch chopping device (6) is inserted in each supply line of the motor; and

a low current measuring device (7) located in one of the supply lines (5),

the current measuring device comprising

a shunt (8) located in the one supply line so that current flowing through the one supply line also flows through the shunt, and

a floating amplifier assembly mounted in parallel with the shunt, a supply voltage of the floating amplifier following a voltage across the shunt.

Claim 11 (new): The system of claim 10, wherein the shunt has an impedance of about 1 mΩ.

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Claim 12 (new): The system of claim 10, wherein the floating amplifier assembly comprises a floating differential amplifier (15) having inputs connected across the shunt and being supplied with two voltages by

a terminal of voltage VCC of the floating amplifier being connected to the battery and to an input terminal (12) of the shunt, and

a voltage terminal GND of the floating amplifier being connected to ground (10) and to the input terminal of the shunt.

Claim 13 (new): The system of claim 12, wherein, the terminal of voltage VCC is connected to the battery through a first diode (D1) and a second condenser (C1) mounted between the

input terminal (12) of the shunt and a cathode (16) of the first diode, and

the voltage terminal GND of the floating amplifier is connected to ground (10) via a second diode (D2) and a second condenser (C2) mounted between the input terminal of the shunt and a anode (17) of the second diode.

Claim 14 (new): The system of claim 13, further comprising a second differential amplifier having a first input connected to an output of the first differential amplifier and a second input connected to the input terminal of the shunt, a terminal of voltage VCC connected to the battery and a voltage terminal GND connected to ground.

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Claim 15 (new): The system of claim 14, further comprising a second differential amplifier having a first input connected to an output of the first differential amplifier and a second input connected to the input terminal of the shunt.

Claim 16 (new): The system of claim 14, further comprising a second differential amplifier having a first input connected to an output of the first differential amplifier and a second input connected to a chopped voltage signal taken from the input terminal of the shunt.

Claim 17 (new): The system of claim 10, further comprising:

a first differential amplifier having inputs connected to an input of the shunt and to an output of the shunt; and

a second differential amplifier, at a first input, connected to the first differential amplifier to receive a potential difference across the input and output of the shunt, and, at a second input, connected to a chopped voltage signal taken from the input terminal of the shunt.

Claim 18 (new): The system of claim 10, wherein the first differential amplifier is supplied with a voltage the follows the voltage across the shunt.

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Claim 19 (new): The system of claim 10, wherein the first differential amplifier is input with a chopped voltage from the input terminal of the shunt and with the potential difference across the input and output terminals of the shunt.

Claim 20 (new): The system of claim 9, wherein the triphase motor is a triphase asynchronous motor.